AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-18. (Cancelled)

19. (Original) In a system that includes an MPEG decoder and has access to a stored MPEG stream that includes I-frames, P-frames, and B-frames, a method for displaying the stored MPEG stream in a reverse mode without requiring simultaneous buffering of all frames between temporally adjacent I-frames, comprising:

an act of buffering two temporally adjacent I-frames, including a first I-frame and a second I-frame that is temporally later in the stored MPEG stream;

based on the first I-frame, an act of iteratively reconstructing and buffering P-frames until a particular P-frame that is temporally adjacent to the second I-frame is reconstructed and buffered;

an act of displaying video data encoded in the second I-frame;

an act of reconstructing and displaying video data encoded in each B-frame between the reconstructed particular P-frame and the second I-frame in reverse order;

an act of displaying video data encoded in the reconstructed particular P-frame; and

an act of iteratively reconstructing other P-frames and B-frames between the first I-frame and the particular reconstructed P-frame to continue displaying video data encoded in frames in the reverse sequence compared to the original sequence without simultaneously buffering all frames between the first I-frame and the second I-frame.

20. (Original) The method as recited in claim 19, wherein the act of iteratively reconstructing and buffering P-frames comprises an act of simultaneously buffering all P-frames.

21. (Original) The method as recited in claim 19, wherein the act of iteratively reconstructing and buffering P-frames comprises the following:

an act of reconstructing a temporally first P-frame after the first I-frame using the first I-frame;

an act of buffering the temporally first P-frame after the act of reconstructing the temporally first P-frame;

an act of releasing the buffer that stored the first I-frame after the act of buffering the temporally first P-frame; and

an act of repeating the acts of reconstructing, buffering and releasing for successive P-frames until the particular P-frame is buffered.

22. (Original) The method as recited in claim 19, wherein the MPEG decoder uses three needed buffers and "m" spare buffers, wherein the second I-frame is buffered in one of the three needed buffers, wherein the first I-frame is initially buffered in another of the three needed buffers initially leaving one empty needed buffer, wherein the act of iteratively reconstructing and buffering P-frames comprises the following:

an act of reconstructing a temporally first P-frame after the first I-frame using the first I-frame;

an act of buffering the temporally first P-frame after the act of reconstructing the temporally first P-frame;

an act of determining whether or not to copy the first I-frame into one of the "m" spare buffers;

an act of copying the first I-frame into one of the "m" spare buffers if it has been determined that the first I-frame is to be copied into one of the "m" spare buffers;

an act of releasing the buffer that stored the first I-frame after the act of determining whether or not to copy the first I-frame into one of the "m" spare buffers;

an act of determining whether or not to copy the first P-frame into one of the "m" spare buffers;

an act of copying the first P-frame into one of the "m" spare buffers if it has been determined that the first P-frame is to be copied into one of the "m" spare buffers; and

an act of repeating the acts of reconstructing, buffering, determining and releasing for successive P-frames until the particular P-frame is buffered.

23. (Original) A method as recited in Claim 22, wherein the act of determining whether or not to copy the first P-frame into one of the "m" spare buffers comprises the following:

an act of determining that the first P-frame is to be copied into one of the "m" spare buffers if any of the following conditions are true:

the first P-frame is temporally at least 1/(1+n)th of the way from the temporally last frame stored in the spare buffers to the temporally last frame stored in the needed buffers, where "n" is the number of unused spare buffers; or

there is only one P-frame between the first P-frame and the temporally last frame in the needed buffers.

24. (Original) The method as recited in Claim 23, further comprising repeating the act of determining that the first P-frame is to be copied into one of the "n" spare buffers, for all other P-frames temporally later than the first P-frame, but temporally earlier than the second I-frame.

25. (Original) The method as recited in Claim 22, wherein the act of determining whether or not to copy the first I-frame into one of the "m" spare buffers comprises the following:

an act of determining that the first I-frame is not to be copied into one of the "m" spare buffers regardless of the number of spare buffers available.

26. (Original) The method as recited in claim 19, wherein the stored MPEG stream includes a set of temporally adjacent frames in the sequence I-frame, B-frame, B-frame, P-frame, B-frame, B-frame, P-frame, B-frame, B-frame, P-frame, B-frame, B-frame, P-frame, B-frame, B-frame.

27. (Original) The method as recited in claim 19, wherein the system comprises a home
entertainment system.

28. (Original) The method as recited in claim 27, wherein the home entertainment system is associated with a computer network.

29. (Original) The method as recited in claim 19, wherein once the video data encoded in a B-frame is displayed all memory buffers associated with the B-frame are released.

30. (Original) In a system that includes an MPEG decoder and has access to a stored MPEG stream that includes I-frames, P-frames, and B-frames, a method for displaying the stored MPEG stream in a reverse mode without requiring simultaneous buffering of all frames between temporally adjacent I-frames, comprising:

an act of buffering two temporally adjacent I-frames, including a first I-frame and a second I-frame that is temporally later in the stored MPEG stream;

a step for displaying video data encoded in the second I-frame, a particular reconstructed P-frame temporally adjacent to the second I-frame, and reconstructed B-frames between the second I-frame and the particular reconstructed P-frame, in reverse sequence, the particular reconstructed P-frame having been iteratively reconstructed from the first I-frame; and

an act of iteratively reconstructing other B-frames between the first I-frame and the particular reconstructed P-frame to continue displaying video data encoded in frames in the reverse sequence compared to the original sequence without simultaneously buffering all frames between the first I-frame and the second I-frame.

31. (Original) The method as recited in claim 30, wherein two B-frames are reconstructed between the second I-frame and the particular reconstructed P-frame.

32. (Original) The method as recited in claim 31, wherein the video data encoded in the second I-frame is displayed, then the video data encoded in the two reconstructed B-frames are displayed and then video data encoded in the particularly reconstructed P-frame is displayed.

33. (Original) A computer program product for implementing, in a system that includes an MPEG decoder and has access to a stored MPEG stream that includes I-frames, P-frames, and B-frames, a method for displaying the stored MPEG stream in a reverse mode without requiring simultaneous buffering of all frames between temporally adjacent I-frames, the computer product comprising:

a computer-readable medium carrying computer-readable instructions, that when executed at the server system, cause the system to perform the following:

an act of buffering two temporally adjacent I-frames, including a first I-frame and a second I-frame that is temporally later in the stored MPEG stream;

based on the first I-frame, an act of iteratively reconstructing and buffering P-frames until a particular P-frame that is temporally adjacent to the second I-frame is reconstructed and buffered;

an act of displaying video data encoded in the second I-frame;

an act of reconstructing and displaying video data encoded in each B-frame between the reconstructed particular P-frame and the second I-frame in reverse order;

an act of displaying video data encoded in the reconstructed particular P-frame; and

an act of iteratively reconstructing other B-frames between the first I-frame and the particular reconstructed P-frame to continue displaying video data encoded in frames in the reverse sequence compared to the original sequence without simultaneously buffering all frames between the first I-frame and the second I-frame.

34. (Original) The computer program product as recited in claim 33, wherein the computer-readable medium comprises one or more physical storage media.